

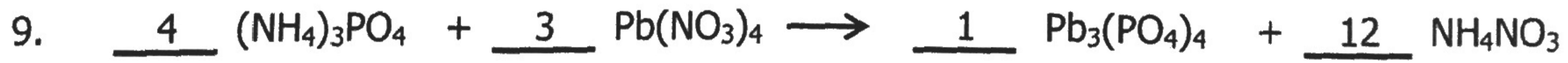
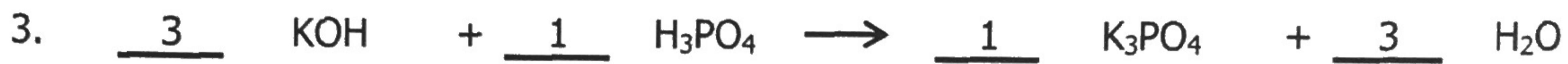
Key - A

Name: _____

Date: _____

Balancing Equations

Balance the following chemical equations.



Key- B

Name: _____

Date: _____

Balancing Equations

Balance the following chemical equations.



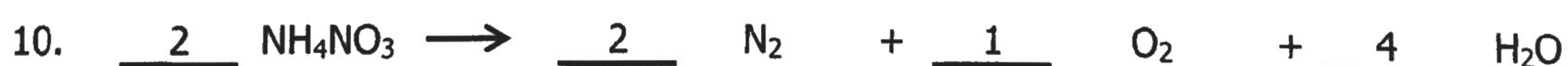
Key -C

Name: _____

Date: _____

Balancing Equations

Balance the following chemical equations.



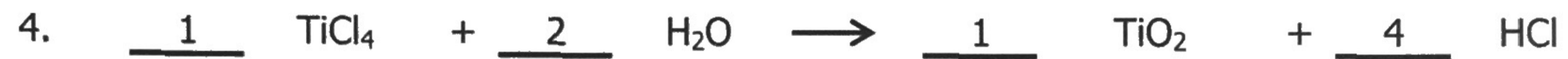
Key - D

Name: _____

Date: _____

Balancing Equations

Balance the following chemical equations.



Balancing Equations Challenge

Part A: Parts & Pieces

- (1) Circle each subscript in each chemical formula.
- (2) Draw a square around each coefficient.
- (3) Answer the questions related to each chemical formula.



What element does the O represent?

Oxygen



How many atoms of each element
are in the formula shown?

C = 1 O = 2



How many atoms of Hydrogen are
in this formula as shown?

10



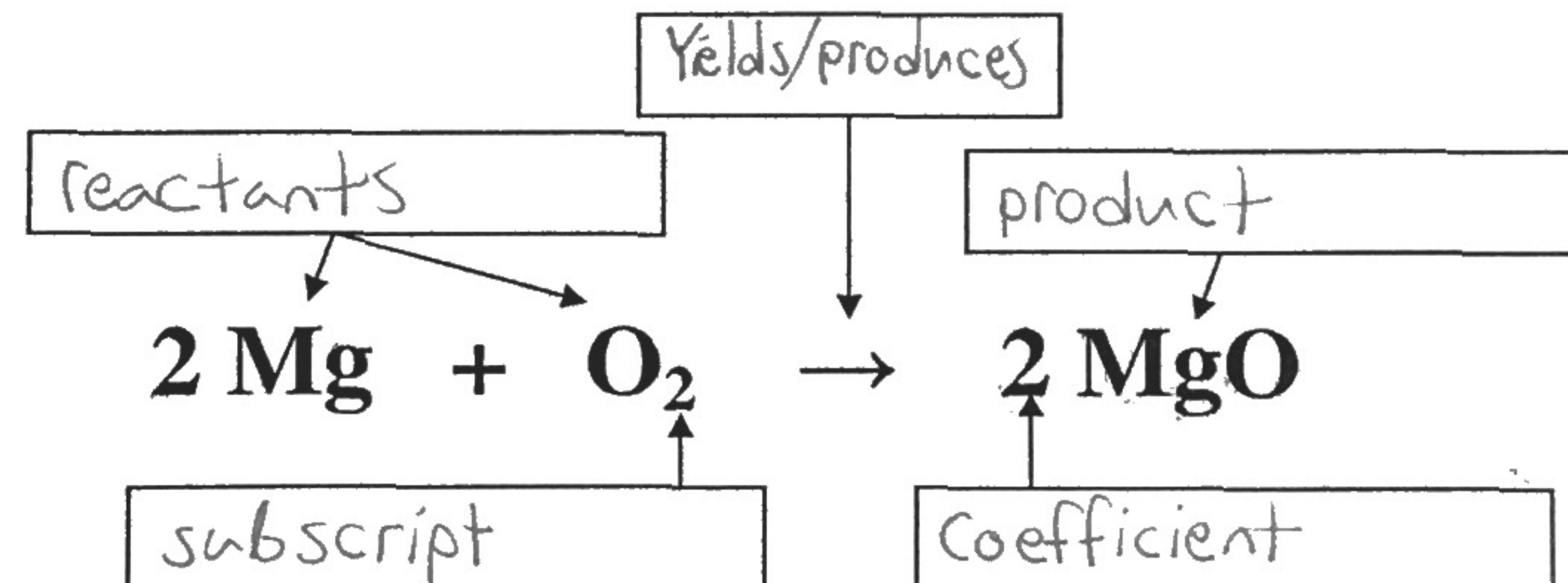
How many atoms each element
are in the formula shown?

C = 4 H = 12



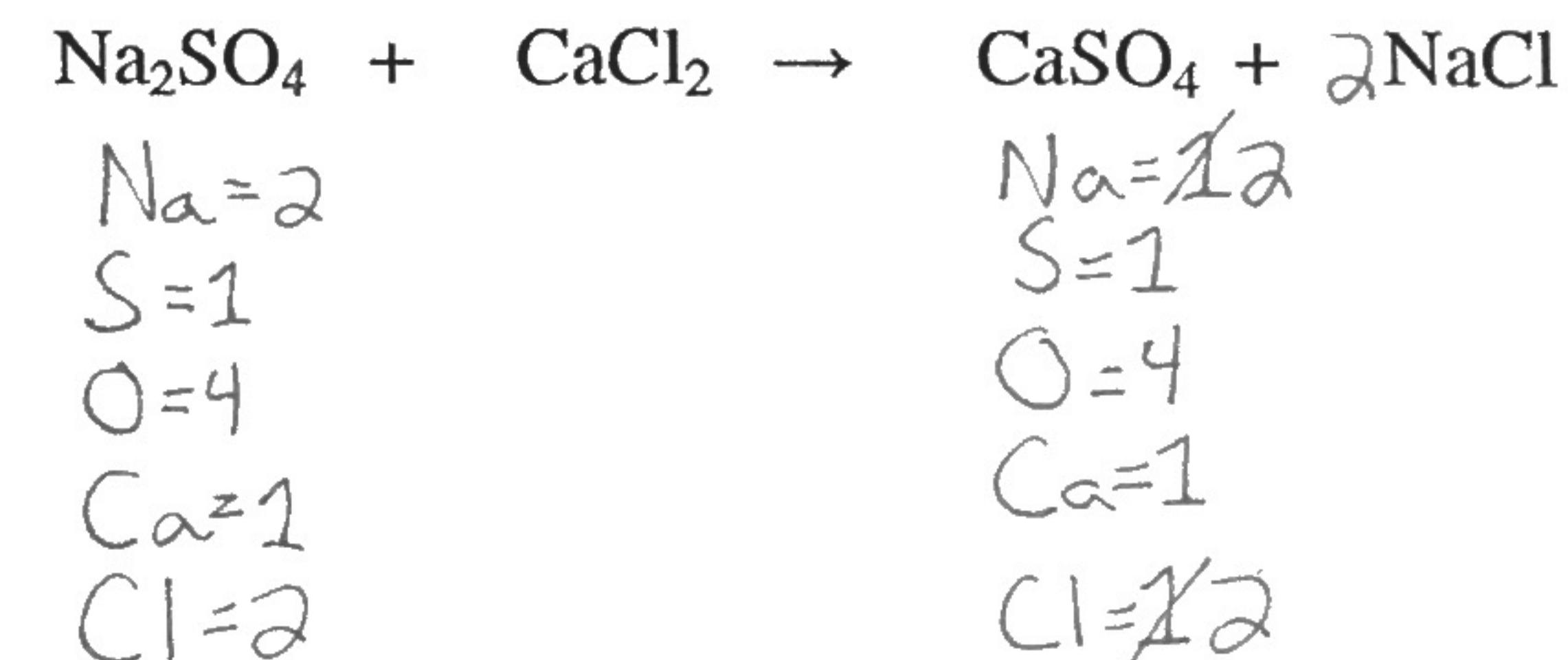
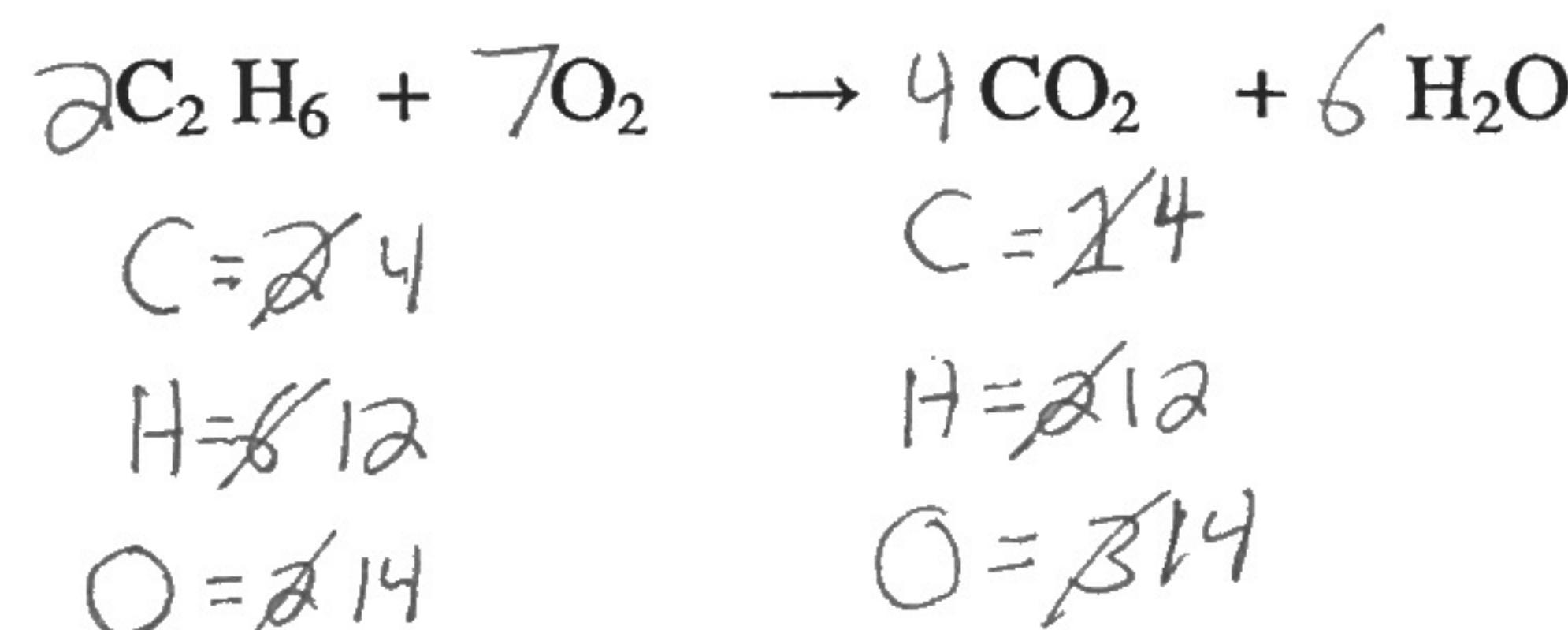
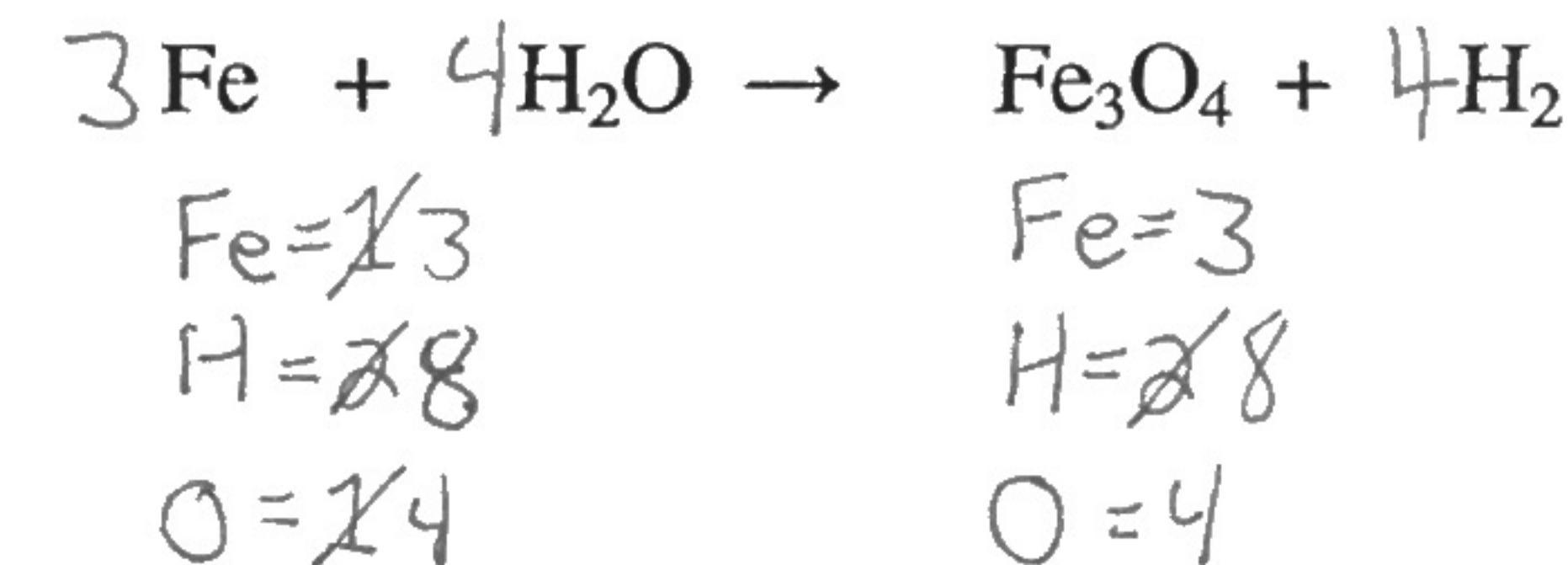
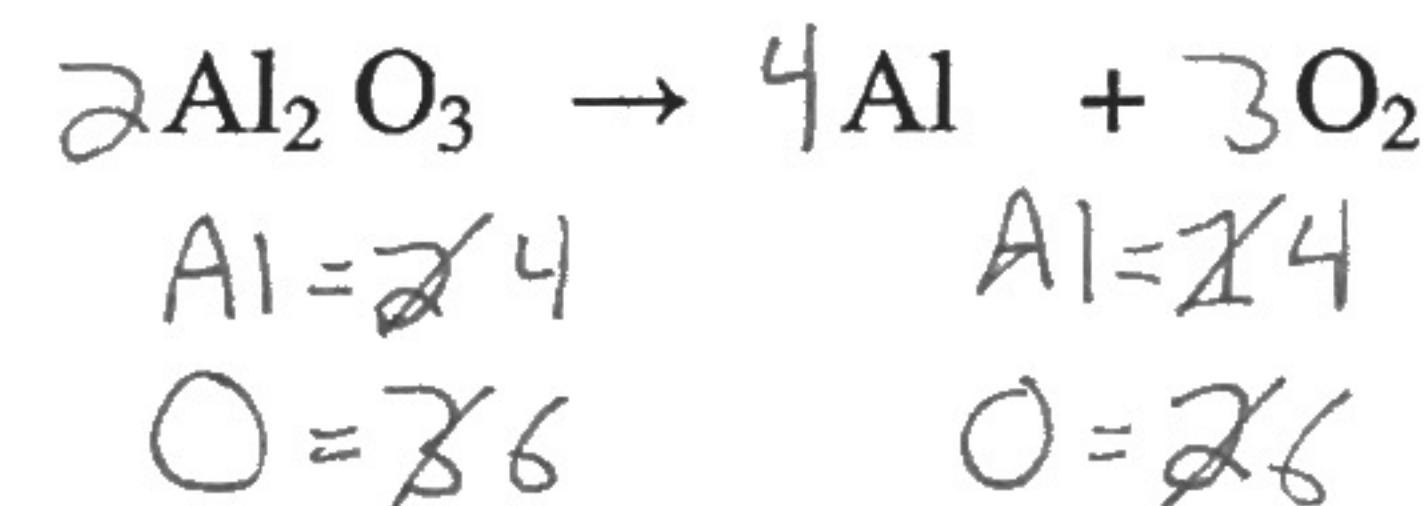
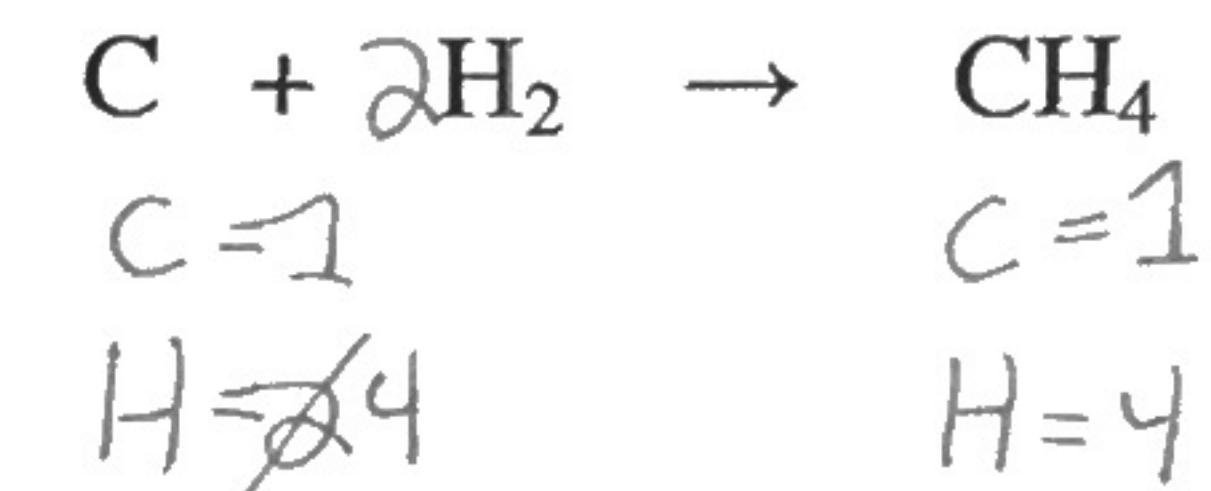
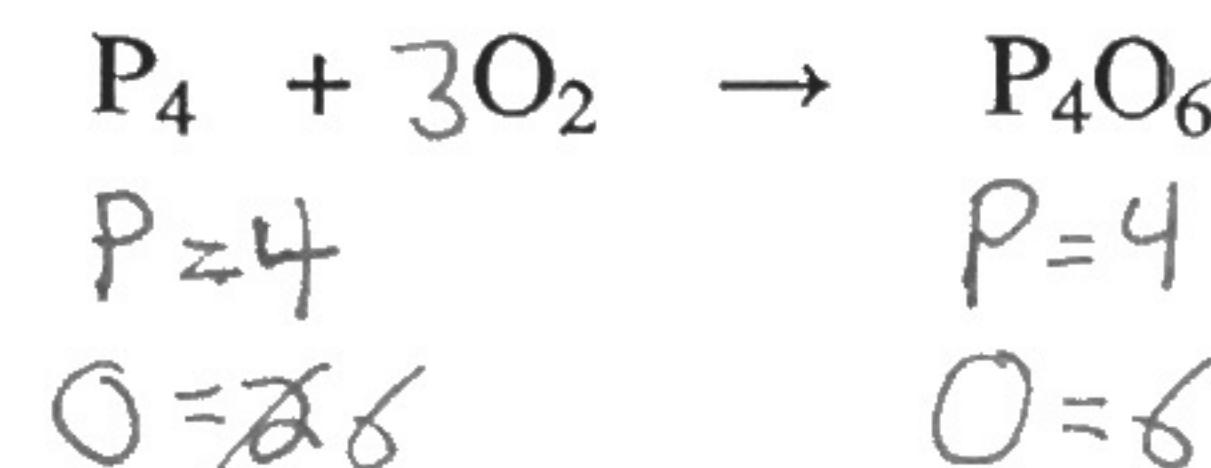
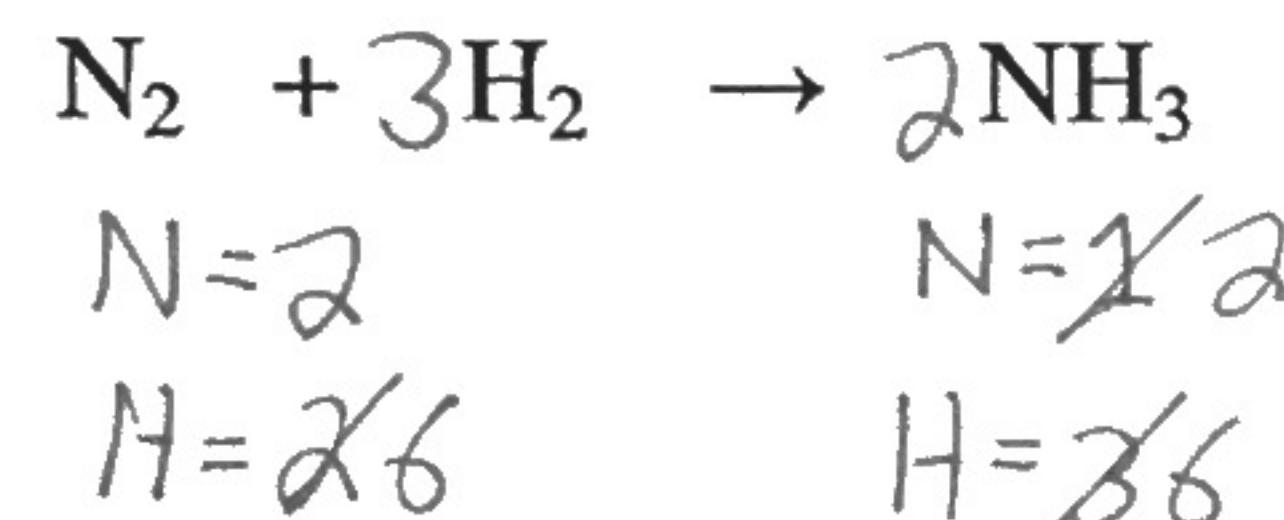
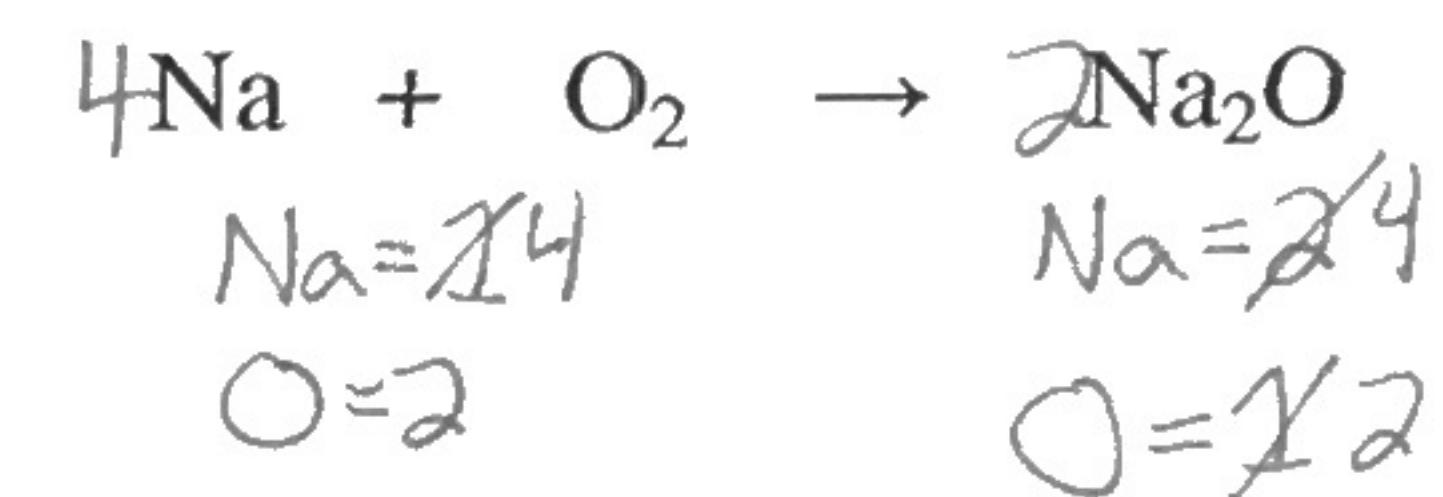
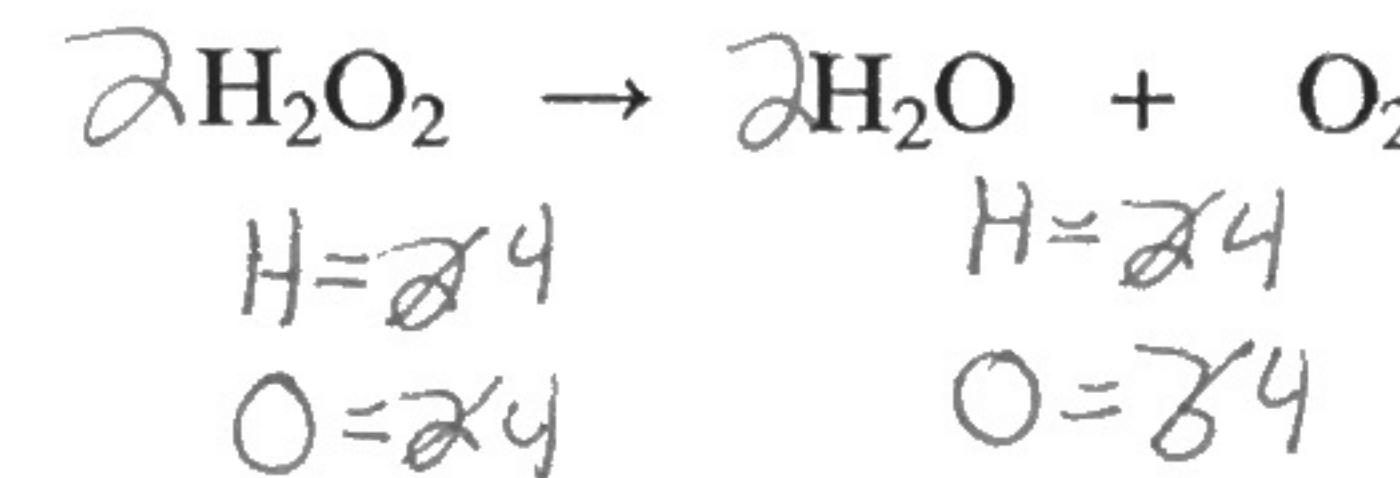
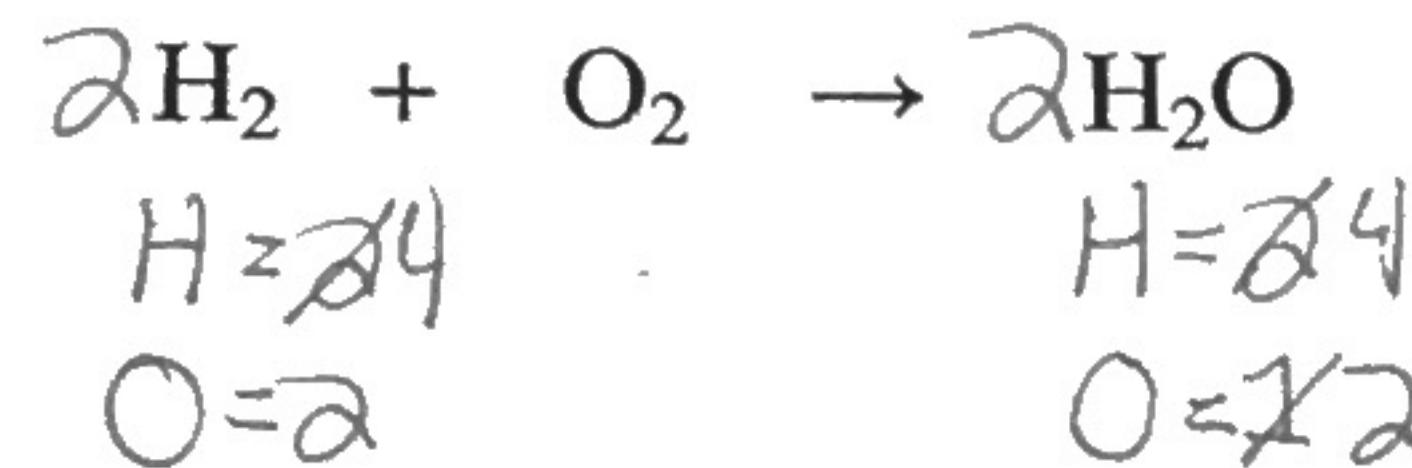
How many atoms each element
are in the formula shown?

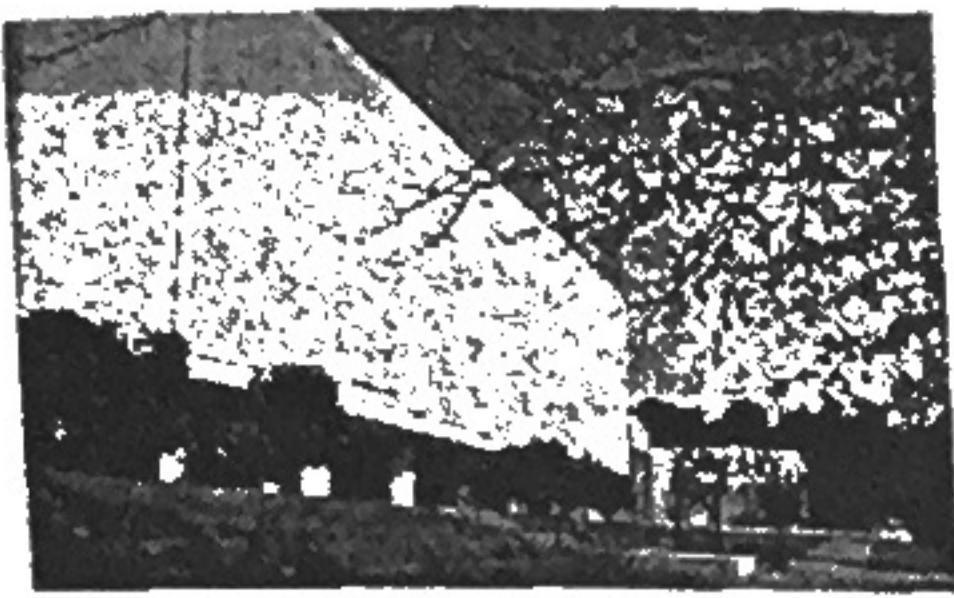
Na = 4 S = 2 O = 8

Part B: Label the chemical equation using PRODUCT, REACTANTS, SUBSCRIPT, COEFFICIENT, and YIELDS.


Part C: Balance each of the following equations.

Remember → List the atoms, count, and solve!

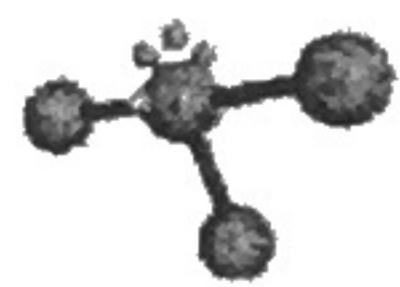




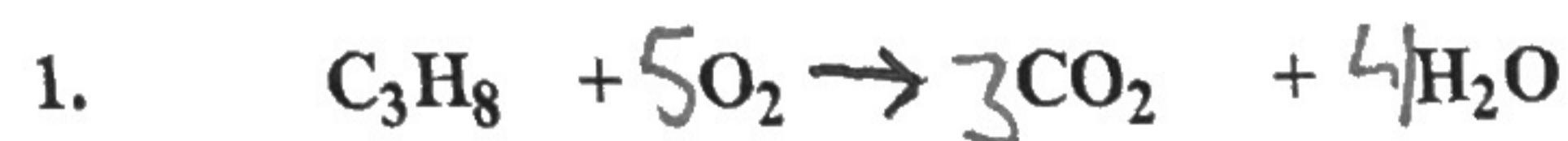
Worksheets

Arkansas State University
Department of Chemistry
and Physics

Balancing Equations



Problems with *** are the most difficult. If you can balance these, you can balance any equation given in class.



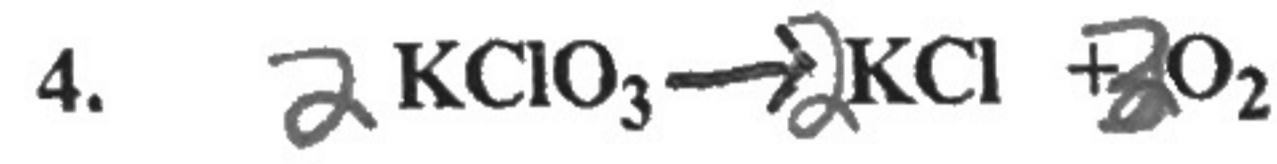
$$\begin{array}{l} \text{C} = 3 \\ \text{H} = 8 \\ \text{O} = 20 \end{array} \quad \begin{array}{l} \text{C} = 13 \\ \text{H} = 2 \\ \text{O} = 10 \end{array}$$



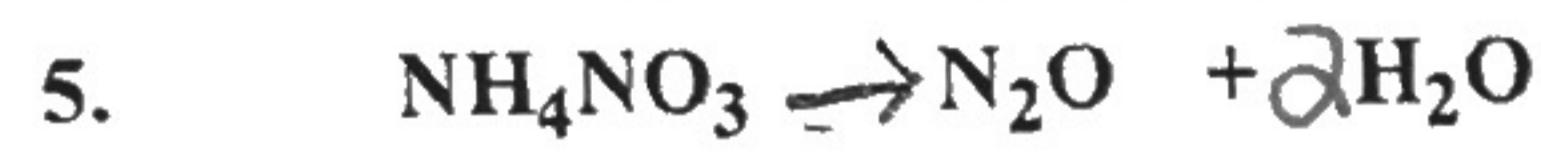
$$\begin{array}{l} \text{Al} = 2 \\ \text{Na} = 26 \\ \text{H} = 26 \\ \text{S} = 3 \\ \text{O} = 10 \end{array} \quad \begin{array}{l} \text{Al} = 22 \\ \text{H} = 26 \\ \text{O} = 89 \end{array} \quad \begin{array}{l} \text{Na} = 26 \\ \text{Al} = 22 \\ \text{S} = 13 \\ \text{O} = 15 \end{array}$$



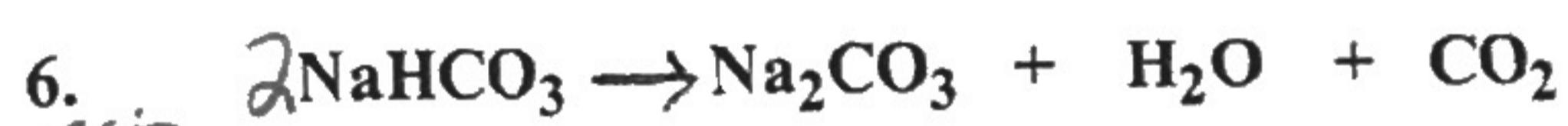
$$\begin{array}{l} \text{Al} = 28 \\ \text{O} = 312 \\ \text{Fe} = 29 \end{array} \quad \begin{array}{l} \text{Al} = 28 \\ \text{O} = 412 \\ \text{Fe} = 29 \end{array}$$



$$\begin{array}{l} \text{K} = 39 \\ \text{Cl} = 35.5 \\ \text{O} = 36 \end{array} \quad \begin{array}{l} \text{K} = 39 \\ \text{Cl} = 35.5 \\ \text{O} = 26 \end{array}$$



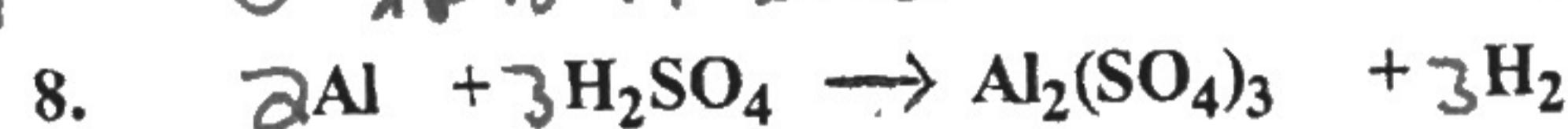
$$\begin{array}{l} \text{N} = 2 \\ \text{H} = 4 \\ \text{O} = 3 \end{array} \quad \begin{array}{l} \text{N} = 2 \\ \text{H} = 24 \\ \text{O} = 23 \end{array}$$



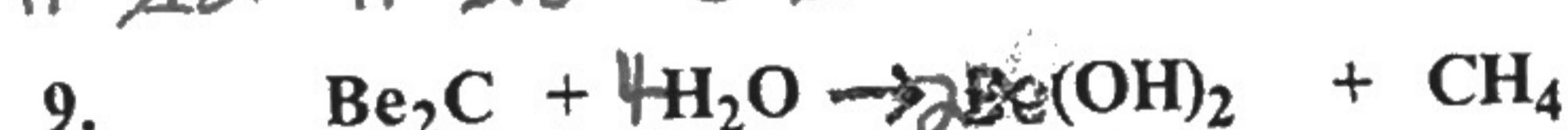
$$\begin{array}{l} \text{Na} = 23 \\ \text{H} = 22 \\ \text{C} = 12 \\ \text{O} = 36 \end{array} \quad \begin{array}{l} \text{Na} = 2 \\ \text{C} = 12 \\ \text{O} = 36 \\ \text{H} = 2 \end{array}$$



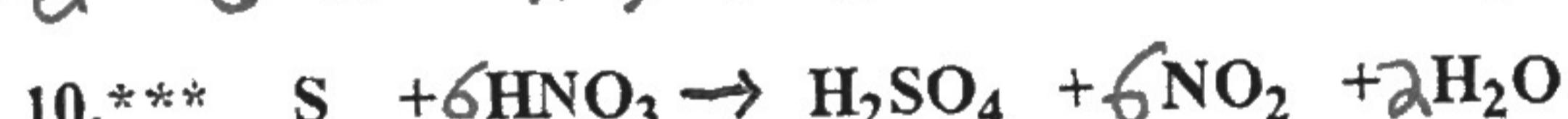
$$\begin{array}{l} \text{P} = 31 \\ \text{O} = 16 \\ \text{H} = 212 \end{array} \quad \begin{array}{l} \text{H} = 312 \\ \text{P} = 24 \\ \text{O} = 416 \end{array}$$



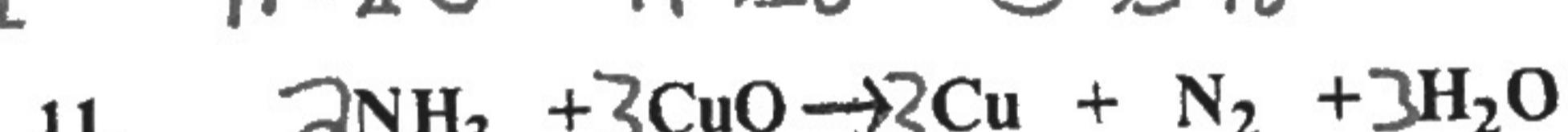
$$\begin{array}{l} \text{Al} = 27 \\ \text{H} = 26 \\ \text{S} = 23 \\ \text{O} = 412 \end{array} \quad \begin{array}{l} \text{Al} = 2 \\ \text{S} = 3 \\ \text{O} = 12 \\ \text{H} = 26 \end{array}$$



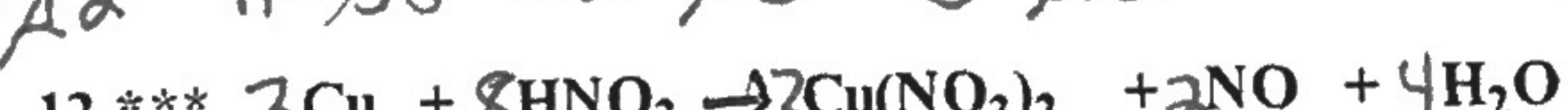
$$\begin{array}{l} \text{Be} = 9 \\ \text{C} = 12 \\ \text{H} = 28 \\ \text{O} = 14 \end{array} \quad \begin{array}{l} \text{Be} = 2 \\ \text{C} = 1 \\ \text{H} = 28 \\ \text{O} = 28 \end{array}$$



$$\begin{array}{l} \text{S} = 32 \\ \text{H} = 26 \\ \text{N} = 26 \\ \text{O} = 318 \end{array} \quad \begin{array}{l} \text{S} = 1 \\ \text{H} = 16 \\ \text{N} = 26 \\ \text{O} = 7818 \end{array}$$



$$\begin{array}{l} \text{N} = 22 \\ \text{H} = 26 \\ \text{Cu} = 23 \\ \text{O} = 23 \end{array} \quad \begin{array}{l} \text{Cu} = 23 \\ \text{N} = 2 \\ \text{H} = 26 \\ \text{O} = 23 \end{array}$$

Answers

$$\begin{array}{l} \text{Cu} = 22 \\ \text{H} = 28 \\ \text{N} = 28 \\ \text{O} = 318 \end{array}$$

$$\begin{array}{l} \text{Cu} = 23 \\ \text{N} = 26 \\ \text{H} = 28 \\ \text{O} = 891016171824 \end{array}$$